Listing of Claims:

1. (Currently amended) A method for cleaning a processing chamber comprising:

removing impurities on a semiconductor substrate in the processing chamber with a plasma of a first gas including a hydrogen gas;

removing the semiconductor substrate from the processing chamber; and

treating the processing chamber to be substantially free of hydrogen by etching the processing chamber with a plasma of a non-hydrogenous second gas.

2. (Original) The method of claim 1, wherein an inside of the processing chamber includes silicon oxide.

3. (Original) The method of claim 1, wherein the first gas includes the second gas.

4. (Original) The method of claim 3, wherein the second gas includes an argon gas.

5. (Original) The method of claim 4, wherein a flow rate ratio between the argon gas and the hydrogen gas in the first gas is about 1:0.8 to about 1:1.2.

6. (Original) The method of claim 1, wherein the impurities on the semiconductor substrate are removed at a temperature of about 450°C to about 550°C.

7. (Currently amended) A method for cleaning a processing chamber comprising:

positioning a semiconductor substrate on a stage in the processing chamber;

vacuumizing the processing chamber;

introducing a first gas into the processing chamber wherein the first gas includes an argon gas and a hydrogen gas;

removing impurities on the semiconductor substrate with a plasma of the first gas;

exhausting a gas from the processing chamber;

removing the semiconductor substrate from the processing chamber;

creating a vacuum in the processing chamber;

introducing a non-hydrogenous second gas into the processing chamber; and

etching the processing chamber with a plasma of the second gas to prevent hydrogen radicals or chemical compounds having hydrogen from forming or remaining in the processing chamber.

8. (Original) The method of claim 7, further comprising a belljar is disposed over the stage, and a processing space provided by the belljar and the stage for positioning the semiconductor substrate.

9. (Original) The method of claim 8, wherein at least one of the stage and the belljar includes silicon oxide.

10. (Original) The method of claim 7, wherein the impurities on the semiconductor substrate are removed at a temperature of about 450°C to about 550°C.

11. (Original) The method of claim 7, wherein the second gas includes an argon gas.

12. (Original) The method of claim 11, wherein a flow rate ratio between the argon gas and the hydrogen gas in the first gas is about 1:0.8 to about 1:1.2.

13. (Original) The method of claim 7, further comprising exhausting the second gas from the processing chamber after the etching of the processing chamber with the plasma of the second gas is completed.

14. (Original) The method of claim 7, wherein exhausting the gas from the processing chamber includes exhausting the first gas and other compounds generated during the removing of impurities on the semiconductor substrate that have been prevented from depositing on the processing chamber or the substrate.

15. (Currently amended) A method for manufacturing a semiconductor device comprising:

positioning a semiconductor substrate in a processing chamber;

removing impurities on the semiconductor substrate in the processing chamber with a plasma of a first gas including a hydrogen gas;

removing the semiconductor substrate from the processing chamber; and

treating the processing chamber to be substantially free of hydrogen by etching the processing chamber with a plasma of a non-hydrogenous second gas.

16. (Original) The method of claim 15, wherein the first gas includes the second gas and the hydrogen gas.

17. (Original) The method of claim 16, wherein the second gas includes an argon gas.

18. (Original) The method of claim 17, wherein a flow rate ratio between the argon gas and the hydrogen gas in the first gas is about 1:0.8 to about 1:1.2.

19. (Original) The method of claim 15, wherein the impurities on the semiconductor substrate are removed at a temperature of about 450°C to about 550°C.